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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/251,988 02/17/99 BEAMAN

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EXAMINER

MM91/0119

IBM CORPORATION  
INTELLECTUAL PROPERTY LAW DEPT  
P O BOX 218  
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HOLLINGTON, J

ART UNIT

PAPER NUMBER

2858

DATE MAILED:

01/19/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

09/251,988

Applicant(s)

BEAMAN ET AL.

Examiner

Jermele M. Hollington

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2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11/27/00
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) 28-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-27 and 41-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. Applicants' election without traverse of Group I claims 1-27 and 41-47 in Paper No. 6 is acknowledged.
2. Claims 28-40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5.

### *Information Disclosure Statement*

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the examiner on form PTO-892 has cited the references, they have not been considered [see page 12].

### *Drawings*

2. Figures 1-18 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).
3. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect can be deferred until the examiner allows the application.

***Specification***

4. The disclosure is objected to because of the following informalities: the applicants need to update all application number such as on page 8 line 10, which is Patent No. 5258236, on page 9 line 9 and page 16 line 5 "Serial No. 07/963,364" should be --Serial No 07/963,346--, which is now Patent No. 5371654 that is also given on page 13 line 8, page 16 line 16, Serial No. 07/963,348 has been abandoned, on page 10 line 4, "Figure 17," should be --Figure 3,--.

Appropriate correction is required.

***Claim Objections***

5. Claims 17 and 21 are objected to because of the following informalities: a array should be an array and spherelike should be sphere like. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

7. Claims 7-8 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding all claims, what is representing "a flexible support" that "is selected from the group consisting of a spring and an elastomeric material?"

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-27 and 41-47 are, in so far as understood, rejected under 35 U.S.C. 102(b) as being anticipated by Beaman et al (5635846).

Regarding claims 1 and 41, Beaman et al discloses a high density test probe comprising a substrate (60) having a surface (58), a plurality of elongated electrical conductors (42) extending away from the surface (58) wherein the conductors (42) having a first end (52) affixed to the surface (58) and a second end (46) projecting away from said surface (58), there being a plurality of said second ends [see figs. 2-3 5-6], a means (44) for positioning and maintaining said plurality of second ends (46) in substantially fixed positions.

Regarding claim 2, the first end (52) is affixed to said surface (58) at an electrical contact location [see column 3 lines 53-54].

Regarding claim 3, the means (44) for positioning and maintaining is a plurality of sheets of material each having a plurality of opening (112) therein through which said second ends (46) project.

Regarding claim 4, it appears at the second end (46) there is a structure selected from the group consisting of a protuberance and a sharp spike.

Regarding claim 5, the plurality of sheets (44) are formed from a material selected from the group consisting of a rigid material and a compliant (see abstract and column 7 lines 11-25).

Regarding claim 6, the sheets (44) comprise a plurality of openings (112), said elongated electrical conductors (42) are disposed against the sides or said openings (112) of at least two of said sheets (44).

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Regarding claim 7, the sheets (44) is spaced apart from said surface (58) by a flexible support (76).

Regarding claim 8, the flexible support (76) is selected from the group consisting of a spring and an elastomeric material.

Regarding claim 9, the elongated electrical conductor (42) have a shape selected from the group consisting of linear, piece wise linear, curved and combinations thereof.

Regarding claim 10, the sheet (44) and the flexible support (76) forms a space containing the plurality of elongated electrical conductors (42).

Regarding claim 11, it appears the space is filled with a flexible material (78).

Regarding claim 12, the flexible material (78) is an elastomeric material.

Regarding claim 13, the sheets (44) is a sheet of electrically conductive material which has a top surface (87) and a bottom surface (108) and said openings (112) have a side wall, a dielectric material coats said top surface (87) and said bottom surface (108) and said side wall.

Regarding claims 14-15, the plurality of elongated electrical conductors (42) are distributed into plurality of groups that are arranged in an array (PGA).

Regarding claim 16, the structure is a probe (see abstract) for an electronic device.

Regarding claims 17-19, the electronic device is selected from the group consisting on an integrated circuit chip on a packaging substrate (60) containing a wafer (see abstract).

Regarding claim 20, the structure has means (94) for holding and moving the structure and means (72) for applying electrical signals to the elongated electrical conductors (42).

Regarding claim 21, the protuberance is sphere like.

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Regarding claims 22-27 and 47, the means (44) for positioning and maintaining is a plurality of sheets of material each having a plurality of opening (112) therein through which said second ends (46) project, the plurality of sheets (44) are formed from a material selected from the group consisting of a rigid material and a compliant (see abstract and column 7 lines 11-25), the sheets (44) is a sheet of electrically conductive material which has a top surface (87) and a bottom surface (108) and said openings (112) have a side wall, a dielectric material coats said top surface (87) and said bottom surface (108) and said side wall, the sheet (44) and the flexible support (76) forms a space containing the plurality of elongated electrical conductors (42).

Regarding claims 42-43, the sheet is formed and material selected from different groups as claimed (see column 7 for details).

Regarding claim 44, the dielectric is selected from the group consisting of a ceramic and a glass (see abstract).

Regarding claims 45-46, the elongated conductor (42) is coated with a hard coat that is from a group consisting of materials as claimed (see column 5 line 54- column 6 line 7).

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ayala-Esquilin et al (5441690), Shih et al (5810607) and Beaman et al (5531022, 5785538, 5821763, 6062879) which all discloses apparatus and method for a high density probe with rigid structure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermele M. Hollington whose telephone number is (703) 305-1653. The examiner can normally be reached on M-F (7:00-4:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on (703) 308-1436. The fax telephone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

J. M. H.  
JMH

January 15, 2001

  
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